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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,074	12/10/2003	Karl Schrodinger	INFMN-008	8493
52612	7590	10/03/2005	EXAMINER	
BEVER, HOFFMAN & HARMS, LLP 1432 CONCANNON BLVD BUILDING G LIVERMORE, CA 94550-6006			THOMAS, BRANDI N	
			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	Application No. 10/733,074	Applicant(s) SCHRODINGER, KARL	
	Examiner Brandi N. Thomas	Art Unit 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 July 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>Detailed Action</u>                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Althaus et al. (6097521) in view of Scifres et al. (4293826).

Regarding claims 1 and 4, Althaus et al. discloses, in figures 1 and 3, an optical arrangement comprising at least one transmission component (2) for emitting radiation and a monitor component (21) which is respectively assigned to the transmission component (2) and detects a part of the radiation emitted by the transmission component (2) for the purpose of monitoring the transmission component (2) (col. 7, lines 4-9), wherein the transmission component (2) and the monitor component (21) are arranged on a carrier substrate (1) having an upper surface (30); light is deflected onto the monitor component (21) the part of the radiation emitted by the transmission component (2) which is to be detected by the monitor component (col. 7, lines 20-24) but does not specifically disclose the substrate having at least one surface area which extends obliquely with regard to the upper surface, and wherein the obliquely extending surface area deflects. However, Scifres et al. does disclose, in figure 10, at least one surface area (111) which extends obliquely with regard to the upper surface of the substrate (12) (col. 7, lines 22-26). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Althaus et al. with the oblique

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surface of Scifres et al. for the purpose of receiving light emitted from the facet (col. 7, lines 22-26).

Regarding claim 2, Althaus et al. discloses, in figures 1 and 3, an optical arrangement, wherein the transmission component (2) emits the part of the radiation which is to be detected by the monitor component (21) downward, in the direction of the carrier substrate (1) (col. 7, lines 7-9 and 20-24) but does not specifically disclose the substrate having at least one surface area which extends obliquely with regard to the upper surface, and wherein the obliquely extending surface area deflects. However, Scifres et al. does disclose, in figure 10, at least one surface area (111) which extends obliquely with regard to the upper surface of the substrate (12) (col. 7, lines 22-26). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Althaus et al. with the oblique surface of Scifres et al. for the purpose of receiving light emitted from the facet (col. 7, lines 22-26).

Regarding claim 3, Althaus et al. discloses, in figures 1 and 3, an optical arrangement, wherein the transmission component (2) comprises a vertically emitting element whose optically active zone is formed on a top side of the element, and the part of the radiation that is detected by the monitor component (21) being transmitted out from an underside of the element in the direction of the carrier substrate (1) (col. 9, lines 43-46).

Regarding claim 5, Althaus et al. discloses, in figures 1 and 3, an optical arrangement, wherein the optically active zone (45) of the monitor component (21) is formed on a top side that faces away from the carrier substrate (1) (figure 1).

Regarding claim 6, Althaus et al. discloses, in figures 1 and 3, an optical arrangement, wherein the obliquely extending surface area (44) extends at an angle of  $45^{\circ}$  relative to the upper

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surface (30) but does not specifically disclose the substrate containing the oblique surface area. but does not specifically disclose the substrate having at least one surface area which extends obliquely with regard to the upper surface, and wherein the obliquely extending surface area deflects. However, Scifres et al. does disclose, in figure 10, at least one surface area (111) which extends obliquely with regard to the upper surface of the substrate (12) (col. 7, lines 22-26). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Althaus et al. with the oblique surface of Scifres et al. for the purpose of receiving light emitted from the facet (col. 7, lines 22-26).

Regarding claim 7, Althaus et al. discloses, in figures 1 and 3, an optical arrangement, wherein the upper surface (49) defines a first plane, and the carrier substrate (1) includes a second surface (32) defining a second plane that is parallel to the first plane (figure 1), the first and second planes having different heights and being connected by the obliquely extending surface area (31), the transmission component (2) being arranged on the upper surface (49) and the monitor component (21) being arranged on the second surface (figure 1).

Regarding claims 8 and 9, Althaus et al. and Scifres et al. disclose an optical arrangement, but does not specifically disclose wherein the carrier substrate (1) comprises a second obliquely extending surface area which is oriented to deflect the part of the radiation reflected from the first obliquely extending surface area onto the monitor component. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the oblique surface of the monitor component, since it has been held that omission of an element and its function in a combination where the remaining elements perform the same functions as before involves only routine skill in the art (In re Karlson, 136 USPQ 184).

Regarding claim 10, Althaus et al. discloses, in figures 1 and 3, an optical arrangement, wherein the carrier substrate (1) represent lateral edges of a cutout formed in the upper surface (30) of tie carrier substrate (1) (col. 6, lines 12-13) but does not specifically discloses oblique surfaces. However therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to fabricate the cutout to contain oblique surface for the purpose of reflecting light.

Regarding claim 11, Althaus et al. discloses, in figures 1 and 3, an optical arrangement, wherein the transmission component (2) and the reception component (21) comprises submodules (3, 15, and 16) that are contact-connected to the carrier substrate (1) (figure 1 and col. 6, lines 20-24).

Regarding claim 12, Althaus et al. discloses, in figures 1 and 3, an optical arrangement, further comprising at least one transmission component (2) mounted on the upper surface (30), and a monitor component (21) respectively assigned to correspond with the transmission component (2) (col. 7, lines 4-9). Althaus et al. does not specifically disclose a plurality of transmission components and monitor components. It would have been obvious to include a plurality of transmission components and monitor components, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art (St. Regis paper Co. v. Bemis Co., 193 USPQ 8). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a plurality of transmission components and monitor components for the purpose monitoring multiple optical signals at one time.

Regarding claim 13, Althaus et al. discloses, in figures 1 and 3, an optical arrangement, including at least one transmission component (2) and a reception component (21), and wherein the submodules (3, 15, and 16) that are contact-connected to the carrier substrate (1) (figure 1), and wherein the submodules (3, 15, and 16) are respectively formed as an array of transmission components (2) and an array of monitor components (21). Althaus fails to set forth a plurality of second transmission components and the plurality of second reception components. It would have been obvious to include a plurality of transmission components and monitor components, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art (St. Regis paper Co. v. Bemis Co., 193 USPQ 8). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a plurality of transmission components and monitor components for the purpose monitoring multiple optical signals at one time.

Regarding claim 14, Althaus et al. discloses, in figures 1 and 3, an optical arrangement, wherein the transmission component (2) comprises a laser (col.6, lines 30-31).

Regarding claim 15, Althaus et al. discloses, in figures 1 and 3, an optical arrangement, wherein the monitor component (21) comprises a photodiode (col. 6, line 58).

Regarding claim 16, Althaus et al. discloses, in figures 1 and 3, an apparatus comprising: a substrate (1) including a first surface (30) defining a first plane and a second surface (32) defining a second plane (col. 7, lines 5-6 and col. 8, lines 13-17); a transmission component (2) mounted on the first surface (30) for emitting radiation such that a portion of the emitted radiation is reflected by the second surface; and a monitor component (21) mounted on the substrate (1) and positioned to receive the reflected portion of the emitted radiation (col. 7, lines

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4-9) but does not specifically disclose that the second plane of the substrate extends obliquely relative to the first plane. but does not specifically disclose the substrate having at least one surface area which extends obliquely with regard to the upper surface, and wherein the obliquely extending surface area deflects. However, Scifres et al. does disclose, in figure 10, at least one surface area (111) which extends obliquely with regard to the upper surface of the substrate (12) (col. 7, lines 22-26). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the device of Althaus et al. with the oblique surface of Scifres et al. for the purpose of receiving light emitted from the facet (col. 7, lines 22-26).

Regarding claim 17, Althaus et al. discloses, in figures 1 and 3, an apparatus, wherein the substrate (1) further includes a third surface (31) defining a third plane that is parallel to the first plane, wherein the third surface (31) extends between the first surface (30) and the second surface (32), and wherein the monitor component (21) is mounted on the third surface (31) (figure 3).

Regarding claim 18, Althaus et al. discloses, in figures 1 and 3, an apparatus, wherein the monitor component (21) includes a side surface defining an oblique angle relative to the third surface (31), and wherein the monitor component (21) is positioned such that the reflected portion of the emitted radiation passes through the side surface (44) (col. 9, lines 43-46).

Regarding claim 19, Althaus et al. discloses, in figures 1 and 3, an apparatus, wherein the substrate (1) further includes a third surface (31) located in an optical path between the second surface (32) and the monitor component (21) (figure 1), and wherein the third surface (31) is



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oriented to reflect the portion of emitted radiation, after being reflected by the second surface, to the monitor component (col. 6, lines 12-13 and col. 7, lines 4-11).

Regarding claim 20, Althaus et al. discloses, in figures 1 and 3, an apparatus, wherein the transmission component (2) is mounted on a first section of the first surface (30), wherein the monitor component (21) is mounted on a second section of the first surface (30) (figure 1), and wherein the second and third surfaces (31 and 32) define a cutout (figure 3, 31 is a recess hole that contains two obliquely extending surface) located between the first and second sections of the first surface (30) (col. 6, lines 12-13).

### *Response to Arguments*

3. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

### *Conclusion*

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Scifres et al. (4297653) discloses a semiconductor injection laser mounted on a silicon substrate with an oblique surface for deflection.

Hamasaki et al. (6654393 B2) discloses a semitransparent mirror containing a substrate with an oblique surface for deflection.

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5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandi N. Thomas whose telephone number is 571-272-2341. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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